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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,809	08/28/2003	Byeong-Hoon Lee	P24070	5995
7055	7590	10/21/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C.			KRAUSE, JUSTIN MITCHELL	
1950 ROLAND CLARKE PLACE			ART UNIT	
RESTON, VA 20191			PAPER NUMBER	

3682

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,809

Applicant(s)

LEE, BYEONG-HOON

Examiner

Justin Krause

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/4/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed December 4, 2003 has been considered during examination.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: downward refracted portion 124.

The specification makes reference to 164 in Figure 9a, however 164 is not shown in Figure 9a.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 8 and 13-18 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The downward refraction portion (124) critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Examiner does not understand the orientation of this element in the device, therefore examiner does not understand how said element interacts with the device in a functional manner.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-10 and 13-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 8, 13-18, it is unclear to Examiner what the downward refraction portion is, where it is located and what the function of it is.

Regarding claims 9, 10 and 19-30, reference is made to "one side" and "the other side". "The other side lacks antecedent basis, and it is unclear what is defined as "one side" and the "other side".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 6-14, 17-20, 23-26, 29-32 and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Satoh et al (US Patent 6,282,977).

Satoh shows a tilt type steering device having a lower bracket (31) mounted on a steering column, a fixed gear (31a) is formed on the bottom surface of the lower bracket. A movable gear (32a) with a top surface toothed to the fixed gear pivotable on a hinge (26) formed at one side, lock slider (16) that disengagably locks the moveable gear and to the fixed gear, a support bracket (35) supports the lock slider, an operation lever (34) having one side hinged (34a) for rotation and a motion converter (46) for converting rotational motion of the operation lever to rectilinear motion of the lock slider.

Regarding claim 2, a guide groove (32) is formed on the lock slider so as to position the operation lever.

Regarding claim 3, the guide groove width is greater than the width of the operation lever. The guide groove is open to the bottom side, making the groove infinite width, which is wider than the width of the operation lever.

Regarding claim 6, the operation lever and the lock slider are connected by a coil spring (46, Fig 15), which comprises the motion converter. The motion of the coil spring allows it to function as a hinge by deforming to one side, removing

Regarding claim 7, the bottom surface of the movable gear is curved (Fig. 14).

Regarding claims 8, 13-14 and 17-18, as best understood, a downward refraction portion (32c) is formed on the tip of one side of the movable gear and an extension portion is formed on one side of the lock slider (33) and the downward refraction portion and the extension contact each other when the moveable gear is released.

Regarding claim 9, 19-20 and 23-24, as best understood, a spring (47) is attached to the tip portion of one side of the lock slider (Fig 17).

Regarding claim 10, 25-26 and 29-30, as best understood, a spring (47) is attached to the tip of the other side of the lock slider (Fig 17).

Regarding claim 11, 31-32 and 35-36, a spring (36) is attached to the operation lever (Fig 2).

Regarding claim 12, the support bracket (35) comprises a spring support member for retaining the spring (Fig 2, Column 8 Lines 38-45).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4-5, 15-16, 21-22, 27-28 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh in view of Higashino et al. (US Patent 5,143,402).

Satoh shows claimed subject matter as described above.

Satoh does not show a circular portion, with a diameter equal to the width of the guide groove, formed on the operation lever disposed in the guide groove wherein the guide groove has sides parallel to each other.

Higashino teaches a guide groove in the lower bracket (31) having parallel sides and a circular portion, having a diameter equal to the width of the guide groove, formed on the operation lever disposed in the guide groove.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Satoh with the circular portion on the operation lever and a parallel sided groove as taught by Higashino. The motivation would have been that a circular shaped member provides progressive engagement or disengagement with the lock slider and low friction. The closed slot with parallel sides and a width equal to the diameter of the circular shaped member provides for more controlled motion than an open groove.

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Regarding Claims 15-16, 21-22, 27-28 and 33-34, Satoh shows the limitations provided in the claims.

Since it would have been obvious to modify the operation lever of Satoh by adding a circular portion to the operation lever and disposing it in a groove with parallel sides, it also would have been obvious to one of ordinary skill in the art at the time the invention was made to add the springs to the modified device in the orientations as described by Satoh. The motivation would have been that the change of shape of the operation lever and the closing of the groove do not change the ability to place springs in the device as described.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,144,855 shows a tilt steering apparatus.

4,593,577 shows a tilt steering apparatus.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jmk
10/12/05


RICHARD W. RIDLEY
~~PRIMARY EXAMINER~~
SPE 3692